

MARCH 1986

Chilton's **Food Engineering**

In this issue:

ENGINEERED FOODS

\$3



NEW PLANT OF THE YEAR

**GOLDEN
CHEESE
COMPANY
OF CALIFORNIA**

CHEDDAR MASTERS

At the world's largest cheese plant, milk-solids manufacturing uses international expertise combined with maximum micro technology.

SITE SELECTION

How to do it and make it work.

THE BIG CHILL

In cooling and refrigeration the trend is toward providing food manufacturers with more automation, more computer-based control, and faster production speeds. The goal is to increase cooling and refrigeration efficiency, while reducing energy costs and improving reliability.

Chilton's Food Engineering



ABOUT THE COVER

Each year *Food Engineering* selects a "New Plant of the Year." Golden Cheese Company of California, the world's largest cheese plant, was this year's choice.

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FOOD ENGINEERING* (ISSN 0193-323X) March 1986, Vol. 58, No. 3. Published monthly by Chilton Company, Chilton Way, Radnor, Pa. 19089 (Telephone 215/964-4000). Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, Pa. 19087 and additional mailing offices. Title registered in U.S. Patent Office © Chilton Company, 1985. All rights reserved.

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15 Preventing food safety crises

Several speakers at the recent NFPA Conference in Atlanta expressed their views on food safety crises: how to prevent them; and how to deal with them.

27 Merger/acquisition effects

There is growing evidence that mergers do not provide a panacea for ailing companies. To the contrary, mergers often can cause the decline of relatively healthy companies.

33 The strike at Hormel

The union strike against Hormel is now over six months old. Will higher wages, driven by union demands, force another wave of consolidation in the meat industry?

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TRUFFLES FIND SWEET U.S. MARKET:

Upscale, fine chocolates, are capturing an ever-increasing segment of the U.S. confectionery market.

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Features

80 New Plant of the Year

Food Engineering visited the Golden Cheese Company of California's new \$110-million plant, the result of an international venture combining British, Irish and Danish technology with American ownership and marketing. The high degree of technology at the plant allows high production levels with a workforce one-third the size normally needed for a plant of this scope.

93 Site Selection

Choosing a site for a new plant involves many factors. After all, the decision you make today is one you'll have to live with for the next thirty or forty years.

101 Refrigeration & Freezing

The special emphasis section of this issue highlights the current trends in refrigeration and freezing technology. Improved computer control, along with improved design and efficiency make cooling a hot category.



SITE SELECTION: The factors facing corporate real estate executives in choosing a new plant site are many and their decisions have long-term ramifications.

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Engineered Foods

61 Breakfast-in-Bread

A new bread base offers the nutritional profile of a breakfast cereal—good news for those of us who sometimes skip breakfast.

64 Cheese Substitute

This lower-calorie, cholesterol-free, low-in-saturated-fats substitute for natural cheese is now available in retail markets.

67 Surimi

Research has shown that surimi and the glandless cottonseed are two of the world's best sources of protein. Those two ingredients are being used in a high-protein drink that serves as a meal replacement.

68 Sulfite Alternatives

With more stringent regulations being considered by the FDA in the use of sulfites, alternatives are being developed for use with fruits and vegetables.

70 Analog Parmesan

There is no cholesterol, lactose or whey with this analog, but the result is a product that tastes like real cheese.

75 Soy Sauces

The need for specialty soy sauces has led to the development of new varieties: low-calorie, light color, preservative-free and dehydrated are just some of the new forms of an old favorite.



BREAKFAST-IN-BREAD: This bread base, with the nutritional profile of breakfast cereal, provides a breakfast alternative for traditional breakfast-skippers. **PAGE 61**

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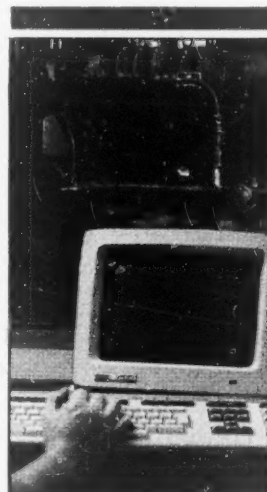
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EQUIPMENT SPELLS SUCCESS: Smith Frozen Foods found that new equipment, allowed them to expand successfully, and profitably. **PAGE 117**



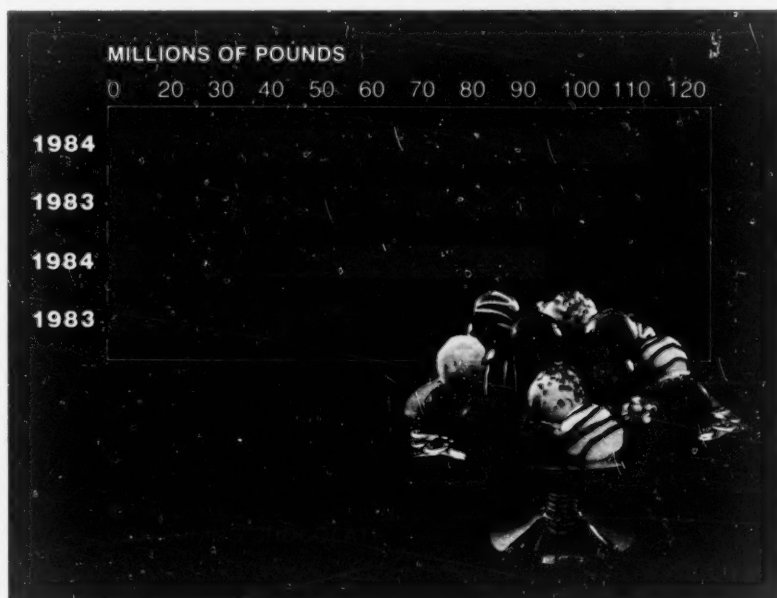
Special Emphasis

REFRIGERATION & FREEZING:

March's special emphasis section highlights the very latest in refrigeration and freezing, both the technology and the equipment. **PAGES 101 TO 108**

MARKETPLACE

U.S. market for Truffles and other "fine" chocolates shows rapid growth



Americans are consuming more chocolates. U.S. chocolate manufacturer figures from U.S. Dept. of Commerce, imported figures from National Confectioner's Association, and photo courtesy of Birnn Chocolates.

Americans are increasingly satisfying their sweet tooth with upscale, "fine" chocolates. Imported (often associated with quality chocolates) chocolate-containing confections are making huge gains in sales volume in this country. Between 1983 and 1984, poundage of imported chocolate confections sold in this country more than doubled (see chart). And, the U.S. manufacture of chocolate in presentation boxes (a smaller category) also showed a healthy gain.

Truffles, a popular upscale candy with origins in France, are now being produced by a host of U.S. manufacturers. Yet, if one asked a dozen manufacturers of Truffles for a definition, one is likely to obtain a varieties of answers.

Named after a mushroom

The original truffle is a rare, mushroom-type product that grows on the roots of oak trees found only in the Pyrenees Mountains of France. They are located by allowing wild hogs to sniff them out. These French truffles are round and have hard, dark exteriors. Reportedly, a French candy maker—upon developing a candy with a hard, dark chocolate exterior and a soft,

creamy inside—called it a truffle because it resembled the mushroom-like truffle in appearance.

Lines of chocolate truffles have been introduced by large and small manufacturers alike. A regional company to begin producing truffles last November is Birnn Chocolates of Highland Park, New Jersey. Sold mostly through gourmet food stores in the East, these candies retail anywhere from \$15 to \$25 a pound. The following varieties are available: Amaretto Milk; Champagne Dark; Champagne Milk; Chocolate Dark; Chocolate Milk; Coffee Milk; Grand Marnier Dark; Mint Dark; Raspberry Dark; and Rum Milk.

Chitchley's *Continental Truffles*—also manufactured in New Jersey—were introduced last October. The line which sells for approximately \$10 a pound retail, is available in Coffee, Orange, Chocolate Mousse, and Soft Caramel in Milk Chocolate. Each variety has a different shape. These include a shell-like exterior or one with a rose design on top.

A West Coast candy maker to introduce a line of Truffles is See's Candies, headquartered in South San Francisco. See's line consists of Mint Chocolate,

Dark Chocolate Chip, Orange Chocolate, Cafe au Lait, Raspberry Chocolate, Light Chocolate, and Dark Chocolate. These Truffles have shapes varying from round and flat to square.

Godiva Chocolatier, Inc. first introduced its line of *La Grande Truffles* in early 1984. This month the original line of Chocolate, Chocolate au Lait, Cerise, and Vanille was expanded with the addition of *La Grande Truffle a la Menthe*. Godiva also has a seven item line of *Petite Truffles* which were introduced in the fall of 1986.

A European line of Truffles produced by Lindt in Switzerland, is imported by several U.S. companies. Al Hobby of Telemar—one of the importers of Lindt's round chocolate Truffles—points out that a white chocolate with a creamy white chocolate filling has recently been added to the line.

"Truffles" have gained such appeal with consumers that they are even being used to name varieties of candy bars. Nestle recently launched a line of four premium quality chocolate bars in the United Kingdom. One of the varieties is "Chocolate Truffle."

Other quality imports

Truffles are not the only upscale chocolates being imported from Europe. Biscuit & Confections, Inc. of Bronx, New York, recently began importing Milk Chocolate Cordial Cherries and "Friedel Confiserie." The Cordial Cherries are produced in West Germany by Carl Brandt. These candies have a cherry center which is surrounded by thin, sweet liquid, and covered with a rich chocolate. The ingredient listing for these chocolates is: Sugar, cocoa mass, cherries, milk powder, corn syrup, cocoa butter, sorbitol, citric acid, lecithin, vanillin, artificial, and natural flavors.

Also imported by Biscuit & Confections, *Friedel Confiserie* is a small (1-1/2 ounce net weight) box of filled chocolates. Each gold box comes with a small bouquet of cloth, red roses and a note that says, "I love you." The varieties in the box include Hazelnut Praline and Coffee-Dessert. They are made in West Germany by Robert Friedel.

Also new from Europe are Droste Chocolate Sticks, available in butter-scotch, mint, and orange varieties. Each retail box contains 40 sticks. The orange contains real orange peel covered with milk and dark chocolate.